WHAT IS CLAIMED IS:

1. An incremental printer for forming desired images on a printing medium, by construction from individual marks in arrays; said printer comprising:

at least one colorant-placing module for marking on such medium;

a first sensor for determining condition or relative positioning of the at least one colorant-placing module; and

a second sensor for making color measurements of marking arrays formed on such medium by the at least one module.

2. The printer of claim 1, wherein:

the second sensor is for making colorimetric measurements of the marking arrays.

3. The printer of claim 1, further comprising:

a colorant carriage for scanning the colorant-placing modules over such medium; and wherein:

the first sensor is mounted to the colorant carriage; and

the second sensor is mounted independently of the first sensor.

4. The printer of claim 3, further comprising:

an auxiliary carriage for holding the second sensor and scanning the second sensor over such medium.

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5. The printer of claim 4, wherein:

the auxiliary carriage is selectively attachable to and detachable from the colorant carriage.

6. The printer of claim 1, wherein:

means for excluding ambient light from the second sensor during the making of color measurements.

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7. The printer of claim 6, wherein the ambient-light excluding means comprise:

a hood generally surrounding the second sensor laterally with respect to a sensing direction; and

a mechanism for advancing the hood along the sensing direction toward such medium.

Sub B1

~~8.~~ The printer of claim 1, further comprising:

a mechanism for ~~advancing~~ the second sensor into a measurement position.

Sub D1

9. The printer of claim 1, further comprising:

a mechanism for advancing the second sensor into contact with such medium.

10. The printer of claim 1, further comprising:

means for presenting at least one color reference target to the second sensor.

11. An incremental printer for forming desired images on a printing medium, by construction from individual marks in arrays; said printer comprising:

at least one colorant-placing module for marking on such medium;

a first carriage for scanning the colorant-placing module over such medium; and

a second carriage, discrete from the first carriage, for use in refining the quality of images produced by the printer.

12. The printer of claim 11, wherein:

the second carriage is selectively attachable to and detachable from the first carriage.

13. The printer of claim 12, wherein:

the second carriage scans a sensor over such medium.

~~14. The printer of claim 11, wherein:~~

~~the second carriage scans a sensor over such medium.~~

15. The printer of claim 14, wherein:

the sensor is a sensor for making color measurements of marks formed on such medium by the at least one colorant-placing module; and

the second carriage also holds at least one reference target for presentation to the sensor.

16. The printer of claim 15, wherein:

the sensor is a colorimetric sensor; and

the reference target is a colorimetric reference target.

17. The printer of claim 14, further comprising:

a hood generally surrounding the sensor laterally with respect to a sensing direction; and

a mechanism for advancing the hood along the sensing direction toward such medium.

18. The printer of claim 14, further comprising:

a mechanism for advancing a component associated with the sensor into contact with such medium.

19. An incremental printer for forming desired images on a printing medium, by construction from individual marks in arrays; said printer comprising:

at least one colorant-placing module for marking on such medium;

a sensor for measuring color properties of colorant marked on such medium by the colorant-placing module;

a hood generally surrounding the sensor laterally with respect to a sensing direction, for excluding ambient light from the sensor during the color-property measuring; and

a mechanism for automatically advancing the hood along the sensing direction toward such medium.

20. The printer of claim 19, wherein:

the hood-advancing mechanism advances the hood into contact with such medium.

21. The printer of claim 21, wherein:

the hood comprises, at a forward surface thereof, a compliant material for facilitating an effective contact between the hood and such medium.

22. The printer of claim 19, wherein:

the hood is movable with respect to the sensor; and

the hood-advancing mechanism is for advancing the hood with respect to the sensor.

23. The printer of claim 22, wherein:

the hood-advancing mechanism advances the hood into contact with such medium.

24. The printer of claim 23, wherein:

the hood comprises, at a forward surface thereof, a compliant material for facilitating an effective contact between the hood and such medium.

25. The printer of claim 19, further comprising:

a door for protecting the sensor when not in use;

wherein the hood-advancing mechanism also comprises means for opening the door for measurements by the sensor.

26. An incremental printing system for forming desired images on a printing medium, by construction from very large numbers of individual liquid-ink drops ejected onto such medium in arrays; said printer comprising:

at least one inkdrop-placing module for ejecting very large numbers of liquid-ink drops onto such medium substantially whenever the printing system is in use for forming images;

at least one sensor, having at least one optical surface, for infrequently measuring, substantially when the printing system is not in use for forming images, characteristics of ink previously received on such medium from the at least one inkdrop-placing module;

an automatic microprocessor for using the measured characteristics in refining operation of the inkdrop-placing module, to optimize the quality of images formed on such medium thereafter;

a door for protecting the at least one optical surface of the at least one sensor from being coated by atmospherically carried residual liquid ink when the at least one sensor is not in use, including whenever the printing system is in use for forming images; and

a mechanism for automatically opening the door before use of the at least one sensor, and for automatically closing the door after use of the at least one sensor;

wherein the microprocessor can reliably optimize the quality of images, free from measurement degradation by coating of liquid ink on the at least one optical surface.

27. The printing system of claim 26, wherein:

the door-opening mechanism also moves the sensor into a measurement position.

Sub B6

28. The printing system of claim 26, wherein the door-opening-and-closing mechanism is:

for automatically opening the door substantially in preparation for use of the sensor; and also

for automatically closing the door promptly after use of the sensor.

29. The printing system of claim 26, wherein:

the at least one sensor has multiple optical surfaces; and

the door is for protecting substantially all of the multiple optical surfaces from being coated by atmospherically carried residual liquid ink when the at least one sensor is not in use, including whenever the printing system is in use for forming images.

30. The printing system of claim 26, wherein the at least one sensor comprises:

a sensor for measuring color properties of the previously received ink; and

a sensor for determining, from patterns of the previously received ink, condition of the at least one inkdrop-placing module.

Sub B6

31. The printing system of claim 26, wherein:

the at least one inkdrop-placing module comprises at least two modules for placing ink; and

the at least one sensor comprises:

a sensor for measuring color properties of the previously received ink, and

a sensor for use in determining, from patterns of the previously received ink, condition or relative positioning, or both, of the inkdrop-placing modules.

Sub B3

32. The printing system of claim 26, further comprising:

means for measuring at least one absolute color reference when the door is not open to admit color characteristics of the previously received ink to the sensor.

33. The printing system of claim 32, wherein:

the absolute-reference measuring means comprise at least one color reference target that is exposed to the sensor when the door is closed.

34. The printing system of claim 33, wherein:

the color reference target is carried on a surface of the door.

Sub B7

35. The ~~printing~~ system of claim 26, wherein:
the door is a shutter.

36. The printing system of claim 35, wherein:
the shutter is in a plane generally parallel to such printing medium, and slides open and shut generally within said plane.

37. An incremental printer for forming desired images on a printing medium, by construction from individual marks in arrays; said printer comprising:
at least one colorant-placing module for marking on such medium;
a sensor for measuring color properties of colorant marked on such medium by the colorant-placing module; and
a flashlamp for illuminating colorant marked on such medium at an intensity high enough to make ambient light substantially insignificant in said measuring.

38. The printer of claim 37, wherein:
the flashlamp is for illuminating said colorant for a time interval short enough to make energy consumption and heating by the flashlamp substantially insignificant in said measuring.

39. The printer of claim 37, wherein:
shielding of the sensor against ambient light is minimal.

40. The printer of claim 37, wherein:

during said measuring, the sensor is in contact with neither such medium nor colorant marked on such medium.

41. The printer of claim 37, wherein:

during said measuring, the sensor is not advanced toward such medium.

42. An incremental printer for forming desired images on a printing medium, by construction from individual marks in arrays; said printer comprising:

at least one colorant-placing module for marking on such medium;

a sensor for measuring color properties of colorant marked on such medium by the colorant-placing module;

a moving carriage for automatically positioning the sensor over colorant on such medium; and

at least one reference target disposed for exposure to the sensor to provide a colorimetric reference measurement for use in conjunction with said measured color properties of colorant marked on such medium.

43. The printer of claim 42, wherein:

the at least one reference target is carried on the moving carriage.

44. The printer of claim 42, wherein:

the at least one reference target is stationary, and the moving carriage comprises means for automatically positioning the sensor over the at least one reference target.

45. The printer of claim 44, further comprising:

a shutter for protecting the at least one reference target; and

means actuated by the moving carriage for controlling the shutter.

46. The printer of claim 42, wherein:

the at least one reference target comprises a white target.

47. The printer of claim 46, wherein:

the at least one reference target also comprises a black target.

48. The printer of claim 42, wherein:

the at least one reference target comprises one or more gray targets.

49. The printer of claim 48, wherein:

the at least one reference target also comprises a chromatically colored target.